Photodermatosis

Idiopathic: (Immunologically mediated photodermatoses)

1. Actinic prurigo.
2. Actinic reticuloid.
3. Polymorphous light eruption.
4. Chronic actinic dermatitis.
5. Solar urticaria.
6. Cutis rhomboidalis nuchae.
7. Solar elastosis.

Exogenous chemical:

1. Phototoxic.
2. Photo-allergic.

Photo-aggravated disease:

1. Genetic:
   - Xeroderma pigmentosa.
   - Porpheria.
   - Pellagra.
   - Bloom's syndrome.
   - Rothmund Thomson syndrome.
   - Cockayen's syndrome.
2. Acquired:
   - Atopic dermatitis.
   - Acne, rosacea, LP, LE.
   - Superficial actinic porokeratosis.
3. Neoplastic disorder:
   - BCC, SCC.
   - Melanoma, Bowen's disease.

5. Hydroa vacciniforme (may EBV)
   - rare
   - chronic photodermatosis of unknown origin
   - In childhood
   - C/P
     1. recurrent papulovesicles on sun exposed skin
     2. healed c vaccinform or varioliform scarring
   - H/P
     - Intra epidermal reticular degeneration & cell necrosis
   - Rx
     - Most cases remit spontaneously by late adolescence
     - B. carotene
     - Thalidomide
     - Azathioprine
     - antimalarial
     - diety fish oil
     - very careful photoprotection.

Polymorphic light eruption

Abnormal reaction to sunlight produced by UVB, UVA, Rarely visible light
It affects young adults, mainly from May to October every year.

Onset: 4 hours to 4 days after sun exposure.
Site: in exposed areas: face, V area of chest, neck and arm.
Types:

1. Papular.
2. Papulo-vesicular.
3. Diffuse erythema.
4. Plaque type (with scaly indurated plaque suggestive of DLE or lymphocytic infiltration of skin. But there is no scaring or atrophy, **DD:** DLE).

Histopathology:

All types are non specific except plaque type:

- Patchy lymphocytic inflammatory infiltrate.
- Infiltrate resembling DLE, but the patchy infiltrate is perivascular and not periappendageal, there is no hydropic degeneration of basal cell layer.

Diagnosis:

1. -ve lupus band test.
2. +ve phototesting with wavelength below 320nm (does not rule out LE).

Treatment:

1. Topical steroids & sunscreens.
2. Systemic antihistaminic.
3. Systemic steroid. (Sever Cases)
4. Systemic antimalarial. (Immunosuppressive & Sunscreen)

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Juvenile spring eruption: on helices of Ears (in boys) → ears more exposed

Chronic actinic dermatitis

The condition affects mainly elderly men over 50 years.

Clinically: (3 criteria)

1. *Persistent eczematous eruption of sun-exposed skin with possible extension into non exposed area.*
2. *Photosensitivity to UVB and may also to longer wavelength.*
3. **Histopathology:** *evidence of chronic eczema.*

Treatment:

- *Avoid UV exposure and sunscreens.*
- *Systemic treatment e.g. azathioprine, danazole and cyclosporine have been tried.*
- *PUVA (reduce type IV hypersensitivity reaction)= pathogenesis of chronic actinic dermatitis.*

Solar urticaria

It is characterized by immediate urticarial response to sun occurring in sun exposed skin. Systemic symptoms may occur if there is sufficient mast cell release.

Pathogenesis:

Type I hypersensitivity reaction in which the precursor photoallergen present in the circulation, skin or both.

Classification:

- *Type I mechanism: allergic → action spectrum → UVB.*
- *Type II mechanism: unknown → action spectrum → UVA.*
- *Type III mechanism: unknown → action spectrum → visible light.*
- *Type IV mechanism: allergic → action spectrum → visible light.*
- *Type V mechanism: unknown → action spectrum → UVB, UVA, visible light.*
- *Type VI mechanism: photoporphyrin → action spectrum → visible light.*

N.B: type I is considered erythropiotic protoporpheria.

Actinic prurigo (Hutchinson's summer prurigo):

Onset: childhood.

C.P:

1. There are itchy papules, small vesicles and pitted scars.
2. Present throughout the year but worst in summer involving exposed and cover areas.
3. There is frequent personal or family history of atopy.

Actinic reticuloids

Onset: elderly men.

C.P:

1. There are lichenified plaques first in exposed areas, but later the eruption gradually spread to cover most of the skin surface → erythroderma and generalized LN enlargement.
2. There is increase thickening and pigmentation of the exposed areas.
3. Itching is severe.

Histopathology:

1. Band like inflammatory infiltrate in upper dermis.
2. It may extend to lower dermis or invade into epidermis → aggregates resembling **pautrrier micro abscesses**.
3. In spite of its resemblance to MF or Sezary's syndrome, it is a benign and reversible. Also T cell in skin and circulation are of the suppressor type, where in CTCL it is of helper type. There are several reports of lymphoma developing in patients with actinic reticuliod.

Treatment:

- Systemic steroids.
- Azathioprine.
- PUVA.
- Sunscreens are usually in effective.

- Patients with photosensitive atopic D more likely to develop actinic Reticuloid.

Scanned by CamScanner

abnormal reaction of skin in sun exposed area to ↳ of Photo Sensitized

Photosensitivity

A number of substances known as photo sensitizers may induce an abnormal reaction in skin exposed to light.

Phototoxic reaction	Photo allergic reaction
1. Non immunological reaction. "Direct tissue injury"	1. Immunological reaction (CMI). Type IV
2. Affect the majority of individuals.	2. Small number of individuals.
3. Occur 2-6 hours after exposure to sun (in the presence of sufficient dose of photo sensitizers. + expo to light (width & proper wave 280-450 nm)	3. Patients have been sensitized by previous exposure to photo sensitizer drugs. 24-48 h need
4. **Phototoxic drug reaction:** ○ C.P: severe sun burn without itching. ○ E.g.: Sulphanamide, Doxycyclin and Psoralin.	4. **Photo allergic drug reaction:** ○ C.P: severe sun burn with itching. ○ E.g.: Tolbutamide (anti-diabetic), Phenothiazine.
5. **Phototoxic contact dermatitis:** ○ C.P: berloque or perfume dermatitis manifested as streaking or dark drop shaped lesions on sides of checks or neck. ○ E.g.: Psoralin lotion, K oil of bergamot.	5. **Photo allergic contact dermatitis:** ○ C.P: erythema and itching at contact site in sun exposed area. ○ E.g.: anti-histamine & Sulfatiazide.

Yes / No

Histopathology:

Acute eczema →

- Spongiosis.
- Intracellular edema.
- Exocytosis.
- Perivascular lymphocytic infiltrate.

Histo pathology
apoptotic Keratinocytes
Sparse of dermal infiltrate of lymphocytes, macrophage, neutrophil

Diseases caused or aggravated by cold

① Reaction to extreme cold:
First bite
when skin Temp drops below about
0° = 2°c
ex. erythema, oedema, numbness, pain
Mainly in exposed parts: ear, nose, finger, Toes
Pathogenesis: Tissue freezing (+ve), inflamm mediator release
Re: Rapid Rewarming

② abnormal Reactions to cold
① chilblain (pernio)
② Acrocyanosis → persistent dusky discoloration of hands, feet with coldness, mainly in young girls
③ Erythrocyanosis
④ livedo Reticularis → Juvenile
⑤ Raynaud's → Juvenile
⑥ cold urticaria
⑦ cryoglobulinemia → Juvenile
⑧ Neonatal cold injury or Sclerema neonatorum.
⑨ cold panniculitis.

chilblain: = pernio (perniosis)
abnormal inflammatory Response to cold, damp, non freezing conditions.
elderly → Prolonged course
younger patient → improve Spontaneously.

Pathogenesis: vascular origin
in children → cryoglobulins or cold agglutinins

Bilat, symetrical
Single or Multiple
erythematous to blue violet macules, papules or nodules
Severe Cases → Blisters, ulcerations
on distal fingers, Toes, less often → nose/Nose, heels

Deep pernio → thighs, calves, Buttocks

(Blue erythrocyanotic plaques)

→ itching, Burning or pain

Course lesions Resolve 1-3 w

except elderly with venous insufficiency (chronic)

Hlp non specific (Lymphocytic vasculitis)

1. Dermal oedema

2. superficial, deep lymphohistiocytic infiltrate with peri-eccrine accentuation

3. Necrotic keratinocytes, lymphocytic vasculitis.

Lab 1. CBC → exclude haematic ano, myelomonocytic leuk

2. cryoglobulin, cold agglutinin, cryofibrinogen Level

3. Serum protein electrophoresis → monoclonal gammopathy

Rx 1 adequate clothing

2 avoid cold, damp conditions

3 avoid smoking

4 Nifedipine 5. Nicotinamide

6. Sympathectomy 7. erythemogenic UVB phototherapy

erythemogenic

Others →

Erythema ab igne

- Prolonged expos to (Moderate heat) (below Threshold of thermal burn)

From → radiators, heating pads, Fireplaces → Persistent Reticular erythema

1 Pigmentation

- Sites Skin of thighs, Buttocks more common

- development of SCC, Merkel cell carcin may major long term Risk

Immersion foot (Trench foot)

- Continuous expos of feet to moist, occluded conditions
- over hydration of St corneum
- Neuropathy may be present indefinitely

Rx: Prevention:

leonine facies

Metabolic
1. Lipoid prot
2. Scleromyxedo
3. Ing Syst. amyloid

Infect
4. LL → Sarcoidosis
5. leish

Phot
6. ~~chic~~ actinic Reticuloid of chic actinic dermatitis.

Tumor
7. leukem cutis
8. CTCL (T, B)
9. Mastocytosis
10. Multicentric Reticulohistiocytosis
11. Progressive nodular histiocytosis

12. Pachy dermatoperiostosis.
    - Cutis verticis gyrata